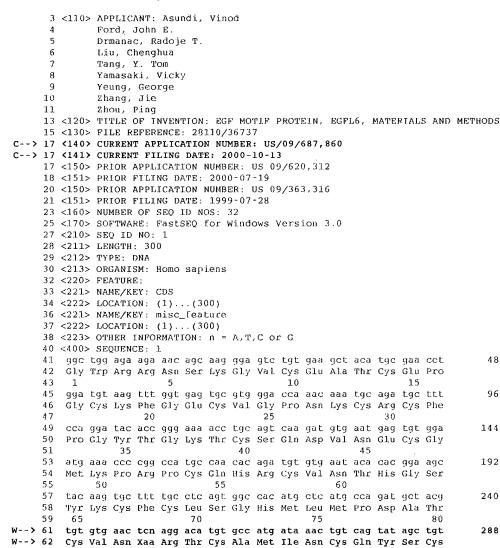
RAW SEQUENCE LISTING DATE: 11/03/2000 PATENT APPLICATION: US/09/687,860 TIME: 12:09:40

Input Set : A:\Pto.amc

11

Output Set: N:\CRF3\11032000\1687860.raw





DATE: 11/03/2000 TIME: 12:09:40 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/687,860

Input Set : A:\Pto.amc
Output Set: N:\CRF3\11032000\1687860.raw

	63					85					90					95		
	64	gaa	gac	aça	gaa													300
	65	Glu	Asp	Thr	Glu													
	66				100													
	69	<210>	SE	QI Ç	NO:	2												
	70	<211>	LEI	GTH:	: 161	1.1									•			
	7.1.	<212>	TYI	PE: L	ANC													
	72	<213>	ORG	GANIS	SM: H	omo	sapi	ens										
	74	74 <220> FEATURE:																
	75	75 <221> NAME/KEY: CDS 76 <222> LOCATION: (1)(1506)																
	76																	
	78	<221> NAME/KEY: misc_feature																
	79	<222>	LOC	CATIC) : NC	(1)	. (16	511)										
	80	<223> OTHER INFORMATION: $n = A,T,C$ or G																
	82	<400>	SEQ	QUENC	CE: 2	2												
	8.3	ggc	tgg	aga	aga	aac	agc	aag	gga	gtc	tgt	gaa	gct	aca	tgc	gaa	cct	48
	84	Gly	Trp	Arg	Arg	Asn	Ser	Lys	Gly	Val	Cys	Glu	Ala	Thr	Cys	Glu	Pro	
	85	1				5					10					15		
	87	gga	tgt	aag	ttt	ggt	gag	tgc	gtg	gga	cca	aac	aaa	tgc	aga	tgc	ttt	. 96
	88	Gly	Cys	Lys	Phe	Gly	Glu	Cys	Val	Gly	Pro	Asn	Lys	Cys	Arg	Cys	Phe	
	89				20					25					30			
	91					ggg				-						-		144
	92	Pro	Gly	-	Thr	Gly	Lys	Thr	-	Ser	Gln	Asp	Va.l.	Asn	Glu	Cys	Gly	
	93			35					40					45				
	95	_				cca	_			-		-						192
	96	мет	-	Pro	Arg	Pro	Cys		His	Arg	Cys	Val		Thr	His	Gly	Ser	
	97		50					55					60					
	99					tgc												240
	100			Cys	Phe	e Cys			Gly	His	Met			Pro	Asp	Ala	Thr	
	101						70					75					80	
	103	_						_	-	_			-	-		_	: tgt	288
M>		-	Val	Asr	ı Xaa	-		Cys	Ala	Met			Cys	Gln	тул		Cys	
	1.05					85					90					95		226
	107				•							_					ctc	336
	108		Asp	Thr			GLY	Pro	GIn	_		Cys	Pro	Ser		_	Leu	
	1.09				1.00					105					110			204
	111	.,	_	-						_		_		-	-	_	gcc	384
	112 113	_	теп			ASI	СТА	Arg	120		Leu	ASP	116	125		г сув	Ala	
	115		~~+	11.5			+ ~ +	000			000	200	4- 4- 1-					422
	116						-				-	_					ttt	. 432
	117		130	_	va ı	. iie	Cys	135	_	ASI	MIG	мту	140		ASI	1.11.1	Phe	
	118					+ + 4 0	222			2++	aat	. + + a			022	+ 2+	atc	480
	119							•						-				400
	120			тУГ	. ıyı	Cys	150	_	nis	1.16	. ст	155		.⊔t÷U	GILL	гіўд	11e	
	120				. + = +	(120			a = +	atra	2 2 t-			20*	atro	+	age:	528
	123					_	-		-			-			_		. agc Ser	328
	1.24	Ser	OTA	41.9	1 1 1 1	165	_	1, 1.5	ush	1.16	1.70		~/S	1117	ne t	. ASP		
	127	cat	aco	tac	age			acc	aat	trac			acc	caa	aaa		ttc	576
	~~ /	Çu C	409	, 090				. 500	u				400	044	ט פיני	,		570

DATE: 11/03/2000 TIME: 12:09:40 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/687,860

Input Set : A:\Pto.amc
Output Set: N:\CRF3\11032000\1687860.raw

				-													
128	His	Thr	Cys	Ser	His	His	Ala	Asn	Cys	Phe	Asn	Thr	Gln	Gly	ser	Phe	
129				180					185					1.90			
131	aag	tgt	aaa	tgc	aag	cag	gga	tat	aaa	ggc	aat	gga	ctt	cgg	tgt	tct	624
132	Lys	Cys	Lys	Cys	Lys	Gln	Gly	Tyr	Lys	Gly	Asn	Gly	Leu	Arg	Cys	ser	
133			195					200					205				
135	gct	atc	cct	gaa	aat	tct	gtg	aay	gaa	gtc	ctc	aga	gca	cct	ggt	acc	672
136	Ala	l l.e	Pro	G.l.u	Asn	Ser	Val	Lys	Glu	Val.	Leu	Arg	Ala	Pro	Gly	Thr	
137		21.0					215					220					
139	atc	aaa	gac	aga	atc	aag	aag	ttg	ctt	gct	cac	aaa	aac	agc	atg	aaa	720
140	Ile	Lys	Asp	Arg	He	Lys	Lys	Leu	Leu	Ala	His	Lys	Asn	Ser	Met	Lys	
141	225					230					235					240	
143	aag	aag	gca	aaa	att	aaa	aat	gtt	acc	cca	gaa	ccc	acc	agg	act	cct	768
144	Lys	Lys	Ala	Lys	He	Lys	Asn	Va l.	Thr	Pro	G1.u	Pro	Thr	Arg	Thr	Pro	
145					245					250					255		
147	acc	cct	aag	gty	aac	ttg	cag	ccc	ttc	aac	tat	gaa	gag	ata	gtt	tcc	816
148	Thr	Pro	Lys	Val	Asn	Leu	Gln	Pro	Phe	Asn	Tyr.	Glu	G.l.u	Ile	Val.	Ser	
149				260					265					270			
151	aga	ggc	ggg	aac	tet	cat	gga	ggt	aaa	aaa	ggg	aat	gaa	gag	aaa	atg	864
152	Arg	Gly	Gly	Asn	ser	His	G.l.y	Gly	Lys	Lys	Gly	Asn	Glu	Glu	Lys	Met	
153			275					280					285				
155	aaa	gag	ggg	ctt	gag	gat	gag	aaa	aga	gaa	gag	aaa	gcc	ctg	aag	aat	912
156	Lys	Glu	Gly	Leu	G1u	Asp	G1u	Lys	Arg	Glu	GLu	Lys	Ala	Leu	Lys	Asn	
157		290					295					300					
159						agc											960
160	Asp	Il.e	Glu	Glu	Arg	ser	Leu	Arg	Gly	Asp	Val	Phe	Phe	Pro	Lys	Val	
161	305					310					315					320	
163	aat	gaa	gca	ggt	gaa	t.tc	ggc	ctg	att	ctg	gtc	caa	agg	aaa	gcg	cta	1008
1.64	Asn	Glu	Ala	Gly	Glu	Phe	Gly	Leu	Ile	Leu	Val.	Gl.n	Arg	Lys	Ala	Leu	
1.65					325					330					335		
167	act	tcc	aaa	ctg	gaa	cat	aaa	gat	tta	aat	atc	tcg	gtt	gac	tgc	agc	1056
168	Thr	Ser	Lys	Leu	G1u	Hi.s	Lys	Asp	Leu	Asn	Ile	Ser	Val	Asp	Cys	Ser	
1.69				340					345					350			
171						tgt											1104
172	Phe	Asn	His	Gly	Ile	Cys	Asp	Trp	Lys	Gln	Asp	Arg	Glu	Asp	Asp	Phe	
1.73			355					360					365				
174						gat											1152
175	Asp		Asn	Pro	Ala	Asp		Asp	Asn	Ala	Ile		Phe	Tyr	Met	Ala	
176		370					375					380					
178	_	-	-	-	-	ggt		_		_			-				1200
179		Pro	Ala	Leu	Ala	Gly	His	Met	Lys	Asp		Gly	Arg	Leu	Lys		
180	385					390					395					400	
182					-	caa										-	1248
183	Leu	Leu	Pro	Asp		G.l.n	Pro	Gln	ser		Phe	Cys	Leu	Leu		Asp	
184					405					410					415		
186			-	-		gac						•			-		1296
187	Tyr	Arg	Leu		Gly	Asp	Lys	Val	-	Lys	Leu	Arg	Va.l		Val	Lys	
188				420					425					430			
190						ctg											1344
191	Asn	ser	Asn	Asn	Ala	Leu	Ala	qxr	Glu	Lys	Thr	Thr	ser	Glu	Asp	G l.u	

RAW SEQUENCE LISTING DATE: 11/03/2000 PATENT APPLICATION: US/09/687,860 TIME: 12:09:40

Input Set : A:\Pto.amc

Output Set: N:\CRF3\11032000\1687860.raw

```
435
    192
                                     440
    194 aag tgg aag aca ggg aaa att cag ttg tat caa gga act gat gct acc
                                                                            1.392
         Lys Trp Lys Thr Gly Lys Ile Gln Leu Tyr Gln Gly Thr Asp Ala Thr
    196
           450
                                455
                                                    460
    198
         aaa agc atc att ttt gaa gca gaa cgt ggc aag ggc aaa acc ggc gaa
                                                                            1440
    199 Lys Ser fle fle Phe Glu Ala Glu Arg Cly Lys Gly Lys Thr Gly Glu
    200
                         470
                                               475
        ate gea gtg gat gge gte ttg ett gtt tea gge tta tgt eea gat age
                                                                            1488
         Ile Ala Val Asp Gly Val Leu Leu Val Ser Gly Leu Cys Pro Asp Ser
485 490 495
    203
    204
W--> 206
         ctt tta tct gtg gan nnc tgaatggtac tatctttata tttgactttg
                                                                            1536
        Leu Leu Ser Val Xaa Xaa
W--> 207
    208
                  500
    210 tatgtcagtt ccctggtttt tttgatattg catcatagga cctctggcat tttaaaatta
                                                                            1.596
    211 ctagctgaaa aattg
                                                                            1611
    213 <210> SEQ ID NO: 3
    214 <211> LENGTH: 100
    215 <212> TYPE: PRT
    216 <213> ORGANISM: Homo sapiens
    218 <400> SEQUENCE: 3
    219 Gly Trp Arg Arg Asn Ser Lys Gly Val Cys Glu Ala Thr Cys Glu Pro
    220 1 5
    221 Gly Cys Lys Phe Gly Glu Cys Val Gly Pro Asn Lys Cys Arg Cys Phe
                                     25
         Pro Gly Tyr Thr Gly Lys Thr Cys Ser Gln Asp Val Asn Glu Cys Gly
    223
                                   40
         Met Lys Pro Arg Pro Cys Gln His Arg Cys Val Asn Thr His Gly Ser 50 55 60
    225
    226
                              55
         Tyr Lys Cys Phe Cys Leu Ser Gly His Met Leu Met Pro Asp Ala Thr 65 70 75 80
    228 65
                          70
    229 Cys Val Asn Ser Arg Thr Cys Ala Met Ile Asn Cys Gln Tyr Ser Cys
    230
    231 Glu Asp Thr Glu
    232
               100
    234 <210> SEQ ID NO: 4
    235 <21.1> LENGTH: 537
    236 <212> TYPE: PRT
    237 <213> ORGANISM: Homo sapiens
    239 <220> FEATURE:
    240 <221> NAME/KEY: VARIANT
    241 <222> LOCATION: (1)...(537)
    242 <223> OTHER INFORMATION: Xaa = Any Amino Acid
    244 <400> SEQUENCE: 4
    245 Gly Trp Arg Arg Asn Ser Lys Gly Val Cys Glu Ala Thr Cys Glu Pro
    246 1 5
                                          1.0
    247 Gly Cys Lys Phe Gly Glu Cys Val Gly Pro Asn Lys Cys Arg Cys Phe
248 20 25 30
    249 Pro Gly Tyr Thr Gly Lys Thr Cys Ser Gln Asp Val Asn Glu Cys Gly
```

RAW SEQUENCE LISTING DATE: 11/03/2000
PATENT APPLICATION: US/09/687,860 TIME: 12:09:40

Input Set : A:\Pto.amc

Output Set: N:\CRF3\11032000\1687860.raw

251 Met Lys Pro Arg Pro Cys Gln His Arg Cys Val Asn Thr His Gly Ser Tyr Lys Cys Phe Cys Leu Ser Gly His Met Leu Met Pro Asp Ala Thr Cys Val Asn Ser Arg Thr Cys Ala Met Ile Asn Cys Gln Tyr Ser Cys Glu Asp Thr Glu Glu Gly Pro Gln Cys Leu Cys Pro Ser Ser Gly Leu 100 105 110Arg Leu Ala Pro Asn Gly Arg Asp Cys Leu Asp Ile Asp Glu Cys Ala 115 120 125 Ser Gly Lys Val Ile Cys Pro Tyr Asn Arg Arg Cys Val Asn Thr Phe 1.35 1.40 Gly Ser Tyr Tyr Cys Lys Cys His Ile Gly Phe Glu Leu Gln Tyr Ile 1.50 1.55 Ser Gly Arg Tyr Asp Cys Ile Asp Ile Asn Glu Cys Thr Met Asp Ser 1.65 1.70 1.75His Thr Cys Ser His His Ala Asn Cys Phe Asn Thr Gln Gly Ser Phe Lys Cys Lys Cys Lys Gln Gly Tyr Lys Gly Asn Gly Leu Arg Cys Ser 195 200 205Ala Ile Pro Glu Asn Ser Val Lys Glu Val Leu Arg Ala Pro Gly Thr 210 215 Ile Lys Asp Arg Ile Lys Lys Leu Leu Ala His Lys Asn Ser Met Lys 225 230 Thr Pro Lys Val Asn Leu Gln Pro Phe Asn Tyr Glu Glu Ile Val Ser Arg Gly Gly Asn Ser His Gly Gly Lys Lys Gly Asn Glu Glu Lys Met 275 280 285 Lys Glu Gly Leu Glu Asp Glu Lys Arg Glu Glu Lys Ala Leu Lys Asn 290 295 Asp Ile Glu Glu Arg Ser Leu Arg Gly Asp Val Phe Phe Pro Lys Val As n Glu Ala Gly Glu Phe Gly Leu Ile Leu Val Gln Arg Lys Ala Leu 325 $$ 330 $$ 335 Thr Ser Lys Leu Glu His Lys Asp Leu Asn Ile Ser Val Asp Cys Ser 340 345 350Phe Asn His Gly Ile Cys Asp Trp Lys Gln Asp Arg Glu Asp Asp Phe Asp Trp Asn Pro Ala Asp Asp Asp Asn Ala Tle Gly Phe Tyr Met Ala 370 375 380Val Pro Ala Leu Ala Gly His Met Lys Asp Ile Gly Arg Leu Lys Leu Leu Leu Pro Asp Leu Gln Pro Gln Ser Asn Phe Cys Leu Leu Phe Asp 405Tyr Arg Leu Ala Gly Asp Lys Val Gly Lys Leu Arg Val Phe Val Lys Asn Ser Asn Asn Ala Leu Ala Trp Glu Lys Thr Thr Ser Glu Asp Glu

MI

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

 VERIFICATION SUMMARY
 DATE: 11/03/2000

 PATENT APPLICATION: US/09/687,860
 TIME: 12:09:42

Input Set : A:\Pto.amc

Output Set: N:\CRF3\11032000\1687860.raw

```
L:17 M:270 C: Current Application Number differs, Replaced Current Application No
L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:61 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:62 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1
L:103 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:104 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:206 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 L:207 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2
L:308 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:416 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:416 M:340 W: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:5
L:535 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:574 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:576 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:592 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:594 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:596 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:639 M:341 W: (46) "n" or "Xaa" used, for SEQ LD#:10
\rm L\!:\!641~M\!:\!341~W\!: (46) "n" or "Xaa" used, for SEQ ID#:10
L:643 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:661 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:805 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:1186 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27
L:1198 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1203 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1207 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
T.: 1211 M: 336 W: Invalid Amino Acid Number in Coding Region, SEQ ID: 27
L:1215 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1219 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ 1D:27
L:1223 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ 1D:27
L:1227 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1231 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1235 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1239 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1243 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1247 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1251 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1255 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1259 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1263 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ 1D:27
L:1267 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1271 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
T.: 1275 M: 336 W: Invalid Amino Acid Number in Coding Region, SEQ ID: 27
L:1279 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1283 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1287 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
L:1291 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27
```

 VERIFICATION SUMMARY
 DATE: 11/03/2000

 PATENT APPLICATION: US/09/687,860
 TIME: 12:09:42

Input Set : A:\Pto.amc

Output Set: N:\CRF3\11032000\1687860.raw

L:1295 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1299 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1303 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1307 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1311 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1315 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1319 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1323 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1327 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1331 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:27 L:1335 M:336 W: Invalid Amino Acid Number in Coding Region, SEO ID:27 L:1482 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 L:1494 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ 1D:29 L:1498 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1502 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1506 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1510~M:336~W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1514 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1518 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1522 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1526 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1530 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1534 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1538 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1542 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29 L:1546 M:336 W: Thvalid Amino Acid Number in Coding Region, SEQ ID:29 L:1550 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:29